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19320A MLRS MISSILE NUMBER V6134 V6135 V6136 V6137  
V6162 V6166 ROUND NUMB..(U) ARMY ELECTRONICS RESEARCH  
AND DEVELOPMENT COMMAND WSMR NM ATM... D C KELLER

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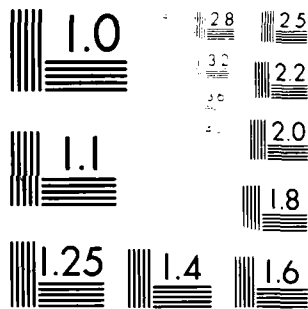
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METEOROLOGICAL DATA REPORT

19320A MLRS

Missile Number V6134, V6135, V6136, V6137, V6162, V6166

Round Number V597/AT2-59 THRU V602/AT2-64

19 June 1984

by

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AVN Number 349-9568

ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECONOM

UNITED STATES ARMY ELECTRONICS COMMAND

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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19320A MLRS, Missile Number V6134, V6135, V6136, V6137, V6162, V6166, Round Number V597/AT2-59 Thru V602/AT2-64 are presented in tabular form.		

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## INTRODUCTION

19320A MLRS, Missile Numbers V6134, V6135, V6136, V6137, V6162 and V6166, Round Numbers V597/AT2-59 Thru V602/AT2-64, were launched from LC-33, White Sands Missile Range (WSMR). New Mexico, at 0957:51, 0957:56, 0958:00, 0958:05, 0958:10 and 0958:15 MDT, 19 Jun 84. The scheduled launch times were 0955 MDT with a 4.5 second separation.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

#### b. Upper Air

(1) Low level wind data were obtained from pilot-balloon observations at:

## SITE AND ALTITUDE

Not Available Due to Radar Failure

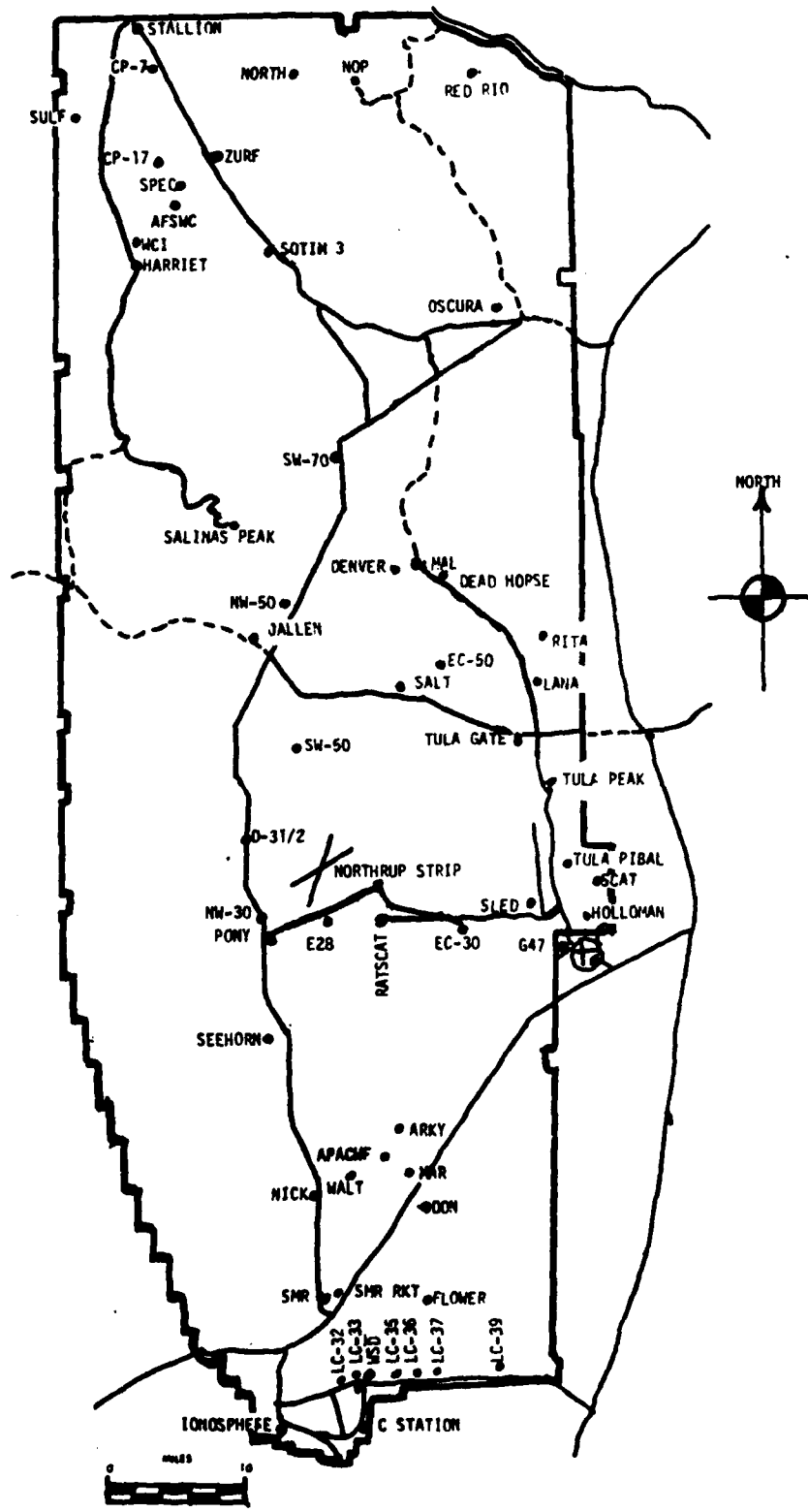
(2) Air structure data (rawinsonde) were collected at the following Met Sites.

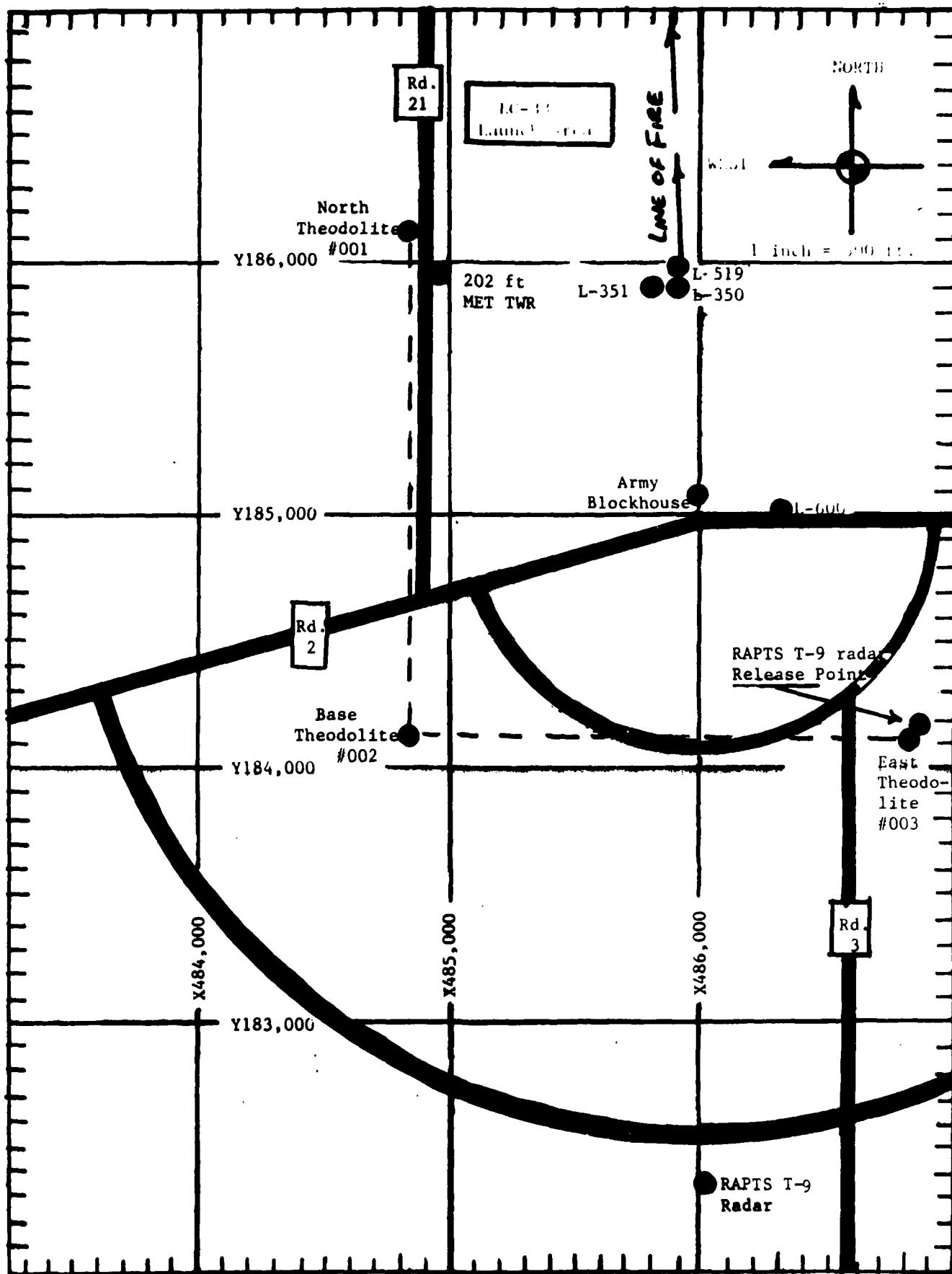
### SITE AND TIME

WSD	0650 MDT
SMR	0650 MDT
WSD	0825 MDT
SMR	0825 MDT
WSD	0910 MDT
SMR	0910 MDT
WSD	0958 MDT
SMR	0958 MDT



# WSMR METEOROLOGICAL SITES





STATION LC-33

DATE 19 May 19 47

$$Y = 484,982.64 \quad Y = 185,957.73 \quad H = 3995.00$$
[illegible][illegible]

## PSYCHOPHYSIC CONJUNCTION

TIME: MDT	0958	
DRY BULB TEMP.	20.2	
WET BULB TEMP.	17.6	
WET BULB DEPR.	2.6	
DEW POINT	16.4	
RELATIVE HUMID.	80	

LC-33 METEOROLOGICAL TOWER  
ANEMOMETER MEASURED WIND DATA

WSTM COORDINATES X=484,982.64 Y=185,957.73 H=3983.00(BASE)

TABLE NO. 2

DATE 19 Jun 84 0958 M D T  
DAY MONTH YEAR TIME

LEVEL #1 12 FT AGL			LEVEL #2 62 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	MISG	MISG	T-30	MISG	MISG
T-20	295	03	T-20	MISG	03
T-10	009	03	T-10	MISG	04
T- 0 (1st T)	354	02	T- 0 (1st T)	MISG	04
T+10	006	04	T+10	MISG	04
T+20	007	03	T+20	MISG	03
T+30	015	03	T+30	MISG	04
T+40	016	03	T+40	MISG	02
T+50	015	02	T+50	MISG	02
T+60		CALM	T+60	MISG	02
LEVEL #3 102 FT AGL			LEVEL #4 202 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	MISG	MISG	T-30	MISG	MISG
T-20	015	05	T-20	023	04
T-10	019	04	T-10	018	03
T- 0 (1st T)	017	03	T- 0 (1st T)	012	03
T+10	015	04	T+10	012	03
T+20	013	04	T+20	011	03
T+30	013	03	T+30	010	03
T+40	013	02	T+40	007	03
T+50	013	02	T+50	006	04
T+60	013	03	T+60	005	03

TABLE 3

## AIMING AND T-TIME COMPUTER MET MESSAGE DATA

19 June 1984

WSD 0650 MDT	SMR 0650 MDT	WSD 0825 MDT	SMR 0825 MDT
METCM1324064	METCM1325064	METCM1324064	METCM1325064
191280122881	191280122881	191440122882	191440122881
00480003 29230881	00391006 29210881	00080002 29400882	00036006 29460881
01379005 29210871	01428009 29220871	01002002 29340872	01063005 29260871
02237009 29020845	02323009 29180846	02077005 29100847	02114004 29100846
03192016 28810806	03224013 29010807	03178010 28840808	03163005 28810807
04138015 28590760	04149014 28640761	04202009 28550761	04194008 28540761
05102016 28310716	05119017 28390716	05164009 28270717	05115014 28250716
06080004 28040674	06099013 28130675	06110012 28040675	06127016 27960674

WSD 0910 MDT	SMR 0910 MDT	WSD 0958 MDT	SMR 0958 MDT
METCM1324064	METCM1325064	METCM1324064	METCM1325064
191520122882	191520122882	191600122882	191600122882
00000000 29470882	00587006 29440882	00000000 29550882	00000000 29670882
01617005 29310872	01028006 29340872	01631002 29340872	01631002 29490872
02635004 29090847	02603004 29150847	02020004 29200847	02011004 29200847
03151009 28830808	03208005 28910808	03147008 28860808	03161006 28910808
04210009 28540761	04215009 28610761	04163008 28610761	04202006 28580761
05161009 28250717	05128013 28290717	05170006 28380717	05124016 28330717
06126013 28040675	06140015 28030675	06167009 28040675	06151012 28120675

STATION ALTITUDE 3722.0 FEET MSL  
19 JUNE 84  
ASCENSION NO. 335

SIGNIFICANT LEVEL DATA  
1710020135  
WHITE SANDS

GEODETIC COORDINATES  
32.40363 LAT DEG  
136.37033 LON DEG

TABLE 4

PRESSURE GLONETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
587.3	17.0	15.9	93.0
573.6	17.2	15.4	89.0
550.0	15.3	13.2	87.0
527.2	13.8	13.0	95.0
503.0	12.1	9.3	83.0
478.5	9.8	5.2	73.0
454.1	7.8	3.5	74.0
429.7	5.1	3.8	85.0
405.3	2.0	-1.2	79.0
380.9	.3	-.4	95.0
356.5	-1.3	-.9	96.0
332.1	-5.5	-7.6	52.0
307.7	-5.7	-6.1	26.0
283.3	-7.9	-3.6	30.0
258.9	-9.0	-10.7	73.0
234.5	-12.7	-14.0	51.0
210.1	-15.5	-16.4	55.0
185.7	-18.7	-14.1	39.0
161.3	-19.9	-17.5	85.0
136.9	-23.1	-27.2	44.0
112.5	-25.9	-25.1	57.0
88.1	-28.7	-30.2	39.0
63.7	-31.1	-40.7	18.0
39.3	-33.5	-42.4	21.0
14.9	-35.1	-50.0	17.0
10.5	-36.9	-50.2	15.0
8.1	-37.1	-52.2	15.0
5.7	-38.3	-56.1	15.0
3.3	-40.2	-55.5	15.0
0.9	-50.2		
0.5	-52.1		
0.1	-57.5		
0.1	-63.2		
0.1	-62.7		
0.1	-53.9		
0.1	-53.1		
0.1	-55.8		
0.1	-70.0		
0.1	-71.2		

GEODETIC COORDINATES  
 32.60063 LAT DEG  
 106.17033 LON DEG

SIGNIFICANT LEVEL DATA  
 1710000335  
 WHITE SANDS

TABLE 4 Cont'd

STATION ALTITUDE 3959.00 FEET MSL  
 19 JUNE 94  
 ASCENSION NO. 335 0650 MDT

PRESSURE GLYMETRIC	TEMPERATURE	REL. HUM.
ALTITUDE	AIR DEWPOINT	PERCENT
MILLIBARS MSL FEET	DEGREES CENTIGRADE	
75.3 67427.9	-58.5	
73.3 51933.4	-55.5	
50.0 59673.8	-58.4	
39.2 71773.6	-55.5	

UPPER AIR DATA  
 1710020335  
 WHITE SANDS

STATION ALTITUDE 3929.0 FEET MSL  
 19 JUNE 54  
 ASCENSION NO. 335

GEODETIC COORDINATES  
 32.63043 LAT DEG  
 106.37033 LON DEG

TABLE 5

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3929.0	890.8	17.0	93.0	1049.3	666.2	270.0	2.9	1.000315
4000.0	880.5	17.0	92.8	1048.3	665.2	259.3	2.9	1.000315
4500.0	864.9	15.5	98.3	1032.5	655.5	147.9	2.0	1.000305
5000.0	849.6	13.1	97.1	1019.3	653.9	121.5	5.1	1.000205
5500.0	834.5	14.3	92.4	1004.5	652.8	117.6	10.3	1.000205
6000.0	819.6	13.6	93.4	989.2	651.9	116.7	14.2	1.000207
6500.0	805.0	13.1	90.2	973.3	651.3	106.7	15.3	1.000203
7000.0	790.5	12.7	87.0	957.7	650.5	98.8	15.3	1.000203
7500.0	775.4	12.2	93.9	942.3	650.0	89.3	15.3	1.000205
8000.0	762.5	11.6	90.1	928.3	650.0	79.0	15.0	1.000208
8500.0	748.7	10.6	76.3	914.3	657.8	69.4	16.1	1.000203
9000.0	735.2	9.7	73.0	901.3	656.7	63.5	15.6	1.000203
9500.0	721.8	9.0	73.4	887.3	655.3	50.0	15.3	1.000203
10000.0	708.7	9.3	73.8	873.5	655.0	58.1	13.5	1.000203
10500.0	695.8	7.5	75.8	859.3	654.1	56.8	9.6	1.000207
11000.0	683.1	6.7	91.2	846.5	653.1	50.9	6.7	1.000204
11500.0	670.5	5.8	34.5	833.5	652.2	35.8	4.5	1.000219
12000.0	658.1	5.0	82.4	820.3	651.1	14.3	5.0	1.000213
12500.0	645.0	4.1	82.1	808.3	650.0	6.8	8.5	1.000208
13000.0	634.0	3.3	30.9	796.3	649.0	9.1	10.3	1.000204
13500.0	622.3	2.4	79.7	783.8	647.9	8.3	9.9	1.000201
14000.0	610.7	1.4	84.3	772.1	645.7	6.5	9.2	1.000203
14500.0	599.3	.3	95.0	759.2	645.1	148.3	5.6	1.000196
15000.0	588.1	-.0	95.5	747.2	645.1	109.4	5.4	1.000192
15500.0	577.0	-.3	79.1	734.1	644.7	772.1	5.1	1.000184
16000.0	566.2	-.3	93.5	722.0	643.9	249.8	3.6	1.000176
16500.0	555.5	-1.3	53.5	710.0	643.2	247.2	5.7	1.000175
17000.0	545.0	-2.5	71.5	699.7	641.7	245.9	8.5	1.000173
17500.0	534.6	-3.8	82.0	689.5	640.2	243.4	9.2	1.000172
18000.0	524.4	-5.2	92.5	679.3	638.6	240.7	7.8	1.000165
18500.0	514.4	-5.7	80.7	668.6	637.9	239.5	3.0	1.000162
19000.0	504.5	-5.4	75.3	657.6	637.0	218.2	3.4	1.000158
19500.0	494.8	-7.0	70.1	646.3	635.2	217.2	9.0	1.000154
20000.0	485.2	-7.4	54.8	635.1	635.6	215.4	10.4	1.000149
20500.0	475.9	-8.2	52.5	624.3	634.5	214.5	11.2	1.000147
21000.0	466.6	-9.7	59.6	614.0	632.8	212.3	11.5	1.000145
21500.0	457.5	-11.1	78.7	603.2	631.2	210.2	11.8	1.000142
22000.0	448.5	-12.5	87.5	598.5	629.5	209.2	12.2	1.000139
22500.0	439.7	-13.8	87.5	589.5	627.9			
23000.0	431.0	-15.0	85.9	580.5	626.4			



STATION ALTITUDE 3329.75 FEET MSL  
 15 JUNE 84  
 ASCENSION NO. 355  
 0650 MDT

UPPER AIR DATA  
 1710020335  
 WHITE SANDS

GEODETIC COORDINATES  
 32.42043 LAT DEG  
 106.37033 LONG DEG

TABLE 5 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (T)	SPEED (KNOTS)	INDEX OF REFRACTION
23500.0	422.4	-16.0	78.9	571.6	525.2	203.3	12.6	1.000135
24000.0	413.9	-16.7	55.9	561.8	524.2	201.2	13.9	1.000131
24500.0	405.6	-17.5	53.0	552.3	523.2	194.7	15.6	1.000128
25000.0	397.5	-18.3	49.9	544.0	522.1	193.2	19.1	1.000125
25500.0	389.5	-19.3	48.6	534.1	520.9	192.5	20.7	1.000123
26000.0	381.6	-20.2	46.9	525.3	519.7	200.9	22.1	1.000120
26500.0	373.3	-21.3	44.4	517.0	518.3	208.7	23.9	1.000117
27000.0	365.2	-22.5	42.2	508.7	516.9	212.8	25.7	1.000115
27500.0	356.7	-23.7	41.0	500.3	515.3	215.4	27.6	1.000113
28000.0	351.3	-25.1	41.5	492.3	513.5	215.8	29.0	1.000111
28500.0	344.0	-26.5	42.3	485.2	511.8	214.5	30.3	1.000109
29000.0	335.8	-27.7	43.4	477.8	510.4	215.1	32.6	1.000107
29500.0	329.6	-28.8	44.5	469.3	509.1	216.3	35.0	1.000105
30000.0	322.7	-29.8	45.8	461.9	507.7	216.3	38.9	1.000104
30500.0	315.9	-30.9	47.0	454.2	506.4	215.2	43.1	1.000102
31000.0	309.2	-32.0	48.3	446.5	505.0	215.0	46.4	1.000100
31500.0	302.7	-33.1	49.5	439.1	503.7	215.8	45.5	1.000093
32000.0	296.2	-34.4	50.6	430.5	503.2	216.4	45.4	1.000095
32500.0	289.9	-36.5	51.7	423.1	501.9	216.3	45.2	1.000095
33000.0	283.5	-38.6	52.9	415.9	500.5	215.2	45.7	1.000093
33500.0	277.5	-40.8	53.8	409.0	500.9	215.7	46.2	1.000091
34000.0	271.5	-43.0	54.5	401.5	500.9	216.5	45.7	1.000090
34500.0	265.5	-45.3	55.0	393.8	500.1	217.5	47.8	1.000088
35000.0	259.8	-47.9	56.3	386.3	500.2	219.3	50.3	1.000085
35500.0	254.1	-50.7	58.0	379.0	500.3	220.4	52.7	1.000085
36000.0	248.4	-53.5	59.8	372.1	500.1	220.7	54.6	1.000083
36500.0	242.9	-56.8	61.8	365.8	500.5	221.1	55.5	1.000081
37000.0	237.4	-60.1	64.1	359.5	500.8	221.7	56.8	1.000080
37500.0	232.1	-63.4	66.4	353.5	500.2	222.2	54.4	1.000079
38000.0	226.9	-66.7	68.7	347.5	500.5	222.7	54.9	1.000077
38500.0	221.6	-70.0	71.0	341.5	500.8	223.3	55.3	1.000076
39000.0	215.8	-73.3	73.3	335.9	500.2	224.7	56.3	1.000075
39500.0	211.9	-76.6	75.6	330.2	500.5	226.2	53.3	1.000074
40000.0	207.1	-80.0	78.0	324.3	500.0	227.7	52.4	1.000072
40500.0	202.3	-83.3	80.3	318.1	500.8	228.8	51.6	1.000071
41000.0	197.6	-86.6	82.6	312.2	500.5	230.1	52.8	1.000070
41500.0	193.0	-90.0	85.0	306.6	500.1	231.6	54.1	1.000063
42000.0	188.4	-93.3	87.3	300.7	500.6	233.1	52.7	1.000067
42500.0	184.0	-96.6	89.6	295.1	500.2	235.4	51.2	1.000066
43000.0	179.7	-100.0	92.0	289.5	500.5	235.4	51.2	1.000065

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3929.00 FEET "SL  
19 JUNE 54  
ASCENSION NO. 335

UPPER AIR DATA  
1710020335  
WHITE SANDS

GEODETIC COORDINATES  
32.43043 LAT DEG  
136.37033 LON DEG

TABLE 5 Cont'd

GLOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY 5M/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
43500.0	175.4	-59.0		284.0	571.5	234.0	51.1	1.000043
44000.0	171.2	-58.9		278.6	570.3	234.7	50.2	1.000062
44500.0	167.1	-59.8		272.3	559.1	234.5	49.3	1.000061
45000.0	163.1	-63.7		267.4	567.9	233.7	47.0	1.000063
45500.0	159.2	-61.5		262.1	555.7	232.7	44.7	1.000053
46000.0	155.3	-62.5		256.9	555.5	233.5	41.3	1.000057
46500.0	151.6	-63.0		251.6	554.7	234.8	37.8	1.000056
47000.0	147.9	-63.2		245.6	564.5	239.1	32.9	1.000055
47500.0	144.3	-63.8		240.1	563.7	243.2	27.6	1.000053
48000.0	140.8	-63.3		233.7	564.4	243.6	24.5	1.000052
48500.0	137.3	-63.7		228.5	553.8	243.8	21.5	1.000051
49000.0	134.0	-64.6		223.8	562.6	242.9	19.4	1.000050
49500.0	130.7	-65.5		219.3	551.6	241.6	17.3	1.000049
50000.0	127.4	-65.4		214.3	550.1	243.4	14.9	1.000048
50500.0	124.3	-67.3		210.3	558.9	248.2	12.4	1.000047
51000.0	121.2	-68.2		206.0	557.7	249.5	10.4	1.000045
51500.0	118.2	-69.1		201.8	555.5	246.2	9.6	1.000045
52000.0	115.2	-70.0		197.5	555.3	234.6	7.7	1.000046
52500.0	112.3	-70.2		192.8	555.0	215.0	5.4	1.000043
53000.0	109.5	-70.4		188.1	554.7	202.5	9.6	1.000042
53500.0	106.7	-70.7		183.5	554.6	193.9	10.5	1.000041
54000.0	104.0	-70.9		179.2	554.1	187.4	11.5	1.000040
54500.0	101.4	-71.1		174.8	553.8	185.7	11.8	1.000039
55000.0	98.9	-71.1		170.6	553.8	184.0	12.1	1.000038
55500.0	96.4	-70.9		166.7	554.1	184.0	11.1	1.000037
56000.0	94.0	-70.5		161.5	554.6	186.0	10.2	1.000035
56500.0	91.5	-70.4		157.6	554.8	184.6	8.9	1.000035
57000.0	89.3	-70.1		153.2	555.1	181.5	7.6	1.000036
57500.0	87.0	-69.7		149.2	555.6	158.5	5.9	1.000033
58000.0	84.9	-69.7		145.1	555.7	140.0	4.5	1.000032
58500.0	82.7	-69.4		141.5	556.1	128.7	4.6	1.000032
59000.0	80.7	-69.2		137.7	556.4	141.7	4.8	1.000031
59500.0	78.6	-68.9		134.1	555.7	148.5	5.0	1.000030
60000.0	75.7	-68.7		130.6	557.0	144.1	6.9	1.000029
60500.0	74.7	-68.3		127.1	557.5	136.9	6.9	1.000028
61000.0	72.9	-67.3		123.3	559.0	108.1	6.7	1.000027
61500.0	71.1	-66.2		119.5	550.5	94.0	9.2	1.000027
62000.0	69.3	-65.3		116.2	551.7	100.5	11.2	1.000026
62500.0	67.7	-64.8		113.1	562.4	107.3	13.2	1.000025
63000.0	65.0	-64.3		110.1	553.1	107.4	14.5	1.000025

STATION ALTITUDE 3000.0 FEET MSL  
19 JUNE 54  
ASCENSION NO. 335 0650 MDT

UPPER AIR DATA  
1710020335  
WHITE SANDS

GEODETTIC COORDINATES  
32.60043 LAT DEG  
106.37033 LON DEG

TABLE 5 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
63500.0	54.4	-63.7		107.2	563.7	103.3	15.3	1.000026
64000.0	62.9	-63.2		104.3	564.4	101.1	15.8	1.000023
64500.0	61.3	-62.7		101.5	565.1	100.0	15.4	1.000023
65000.0	59.9	-62.2		98.9	565.8	98.9	15.0	1.000022
65500.0	58.4	-61.7		96.2	565.5	99.2	14.9	1.000021
66000.0	57.0	-61.2		93.7	567.2	99.5	14.7	1.000021
66500.0	55.6	-60.6		91.2	567.9	94.2	14.8	1.000020
67000.0	54.3	-60.1		88.8	568.6	85.5	15.2	1.000020
67500.0	53.0	-59.5		86.4	569.3	80.3	15.0	1.000019
68000.0	51.7	-59.1		84.1	570.0	76.3	17.2	1.000019
68500.0	50.4	-58.6		81.9	570.7	74.0	18.3	1.000018
69000.0	49.2	-58.2		79.8	571.1	83.5	18.9	1.000018
69500.0	46.1	-57.9		77.8	571.5	82.3	20.1	1.000017
70000.0	46.9	-57.7		75.9	571.9	101.8	20.4	1.000017
70500.0	45.8	-57.4		74.0	572.2	112.8	20.5	1.000015
71000.0	44.7	-57.1		72.2	572.6	123.3	21.4	1.000016
71500.0	43.7	-56.8		70.4	573.0	119.6	19.2	1.000015
72000.0	42.7	-56.6		68.5	573.3	111.5	17.1	1.000015
72500.0	41.7	-56.3		66.9	573.7			1.000015
73000.0	40.7	-56.0		55.3	574.1			1.000015
73500.0	39.7	-55.7		53.5	574.4			1.000016

STATION ALTITUDE 3089.0 FEET "SL  
19 JUNE 54  
ASCENSION NO. 335 0650 MDT

MANDATORY LEVELS  
1710020335  
WHITE SANDS

GEODETIC COORDINATES  
32.63043 LAT DEG  
136.37033 LONG DEG

TABLE 6

PRESSURE GEOPOTENTIAL MILLIBARS	FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
				DIRECTION DEGREES (T)	SPEED KNOTS
850.0	4986.	15.3	97.	121.8	5.9
800.0	6668.	13.0	89.	131.7	15.8
750.0	8446.	10.5	77.	70.5	15.9
700.0	10327.	7.8	74.	57.4	11.0
650.0	12326.	6.4	93.	5.1	6.1
600.0	14452.	3.	95.	6.7	9.3
550.0	16747.	-1.9	66.	247.9	8.3
500.0	19206.	-5.7	73.	226.7	8.1
450.0	21886.	-12.3	95.	212.7	11.5
400.0	24804.	-18.0	64.	193.5	17.2
350.0	28035.	-25.6	20.	215.5	29.2
300.0	31546.	-33.5	17.	216.1	35.5
250.0	35784.	-43.2		220.6	54.0
200.0	40645.	-52.1		233.5	52.0
175.0	43442.	-59.1		236.9	51.0
150.0	46587.	-62.7		235.5	36.1
125.0	50244.	-67.1		246.8	13.1
100.0	54603.	-71.2		136.8	11.9
80.0	58955.	-69.1		166.7	4.9
70.0	61590.	-65.5		96.6	13.5
60.0	64690.	-62.2		90.1	15.1
50.0	68419.	-59.6		75.8	18.4
40.0	73052.	-55.8			

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

GEODETIC COORDINATES  
 32.48034 LAT DEG  
 106.42307 LON DEG

SIGNIFICANT LEVEL DATA  
 171004010R  
 C M R

STATION ALTITUDE 1907.00 FEET "5"  
 10 JUNE 64 0650 MDT  
 ASCENSION NO. 101

TABLE 7

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
881.0	1907.3	17.1	15.4	90.0
879.1	4000.0	17.2	16.1	82.0
859.0	5000.0	16.5	13.4	82.0
821.4	5850.9	14.7	12.6	87.0
782.2	7318.7	12.8	10.7	87.0
721.8	8454.5	10.0	4.0	46.0
700.0	10367.1	8.5	3.6	71.0
635.2	15993.4	4.7	.8	76.0

STATION ALTITUDE 1007.00 FEET MSL  
10 JUNE 64 0650 MDT  
ASCENSION NO. 102

UPPER AIR DATA  
171006010Z  
5 M P

GEONETIC COORDINATES  
32.48034 LAT DEG  
106.42107 LONG DEG

TABLE 8

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
1007.0	891.0	17.1	80.0	1.260.4	666.2	720.0	6.0	1.000313
4000.0	880.9	17.1	89.8	1.260.3	666.2	710.0	6.0	1.000313
4500.0	845.4	16.0	92.0	1.237.2	665.8	194.0	5.2	1.000301
5000.0	850.1	16.5	92.0	1.235.6	665.3	167.7	5.6	1.000206
5500.0	835.0	15.5	94.8	1.201.0	664.1	147.6	6.0	1.000201
6000.0	820.2	14.5	87.0	1.284.4	663.0	135.2	9.8	1.000286
6500.0	805.6	13.9	87.0	1.271.4	662.2	127.3	11.0	1.000280
7000.0	791.2	13.2	87.0	1.256.6	661.4	115.0	11.0	1.000274
7500.0	777.1	12.6	85.2	1.241.7	660.5	99.2	12.6	1.000268
8000.0	763.1	11.9	80.3	1.227.6	659.6	86.2	14.1	1.000259
8500.0	749.3	11.3	75.4	1.213.7	658.7	77.2	15.5	1.000251
9000.0	735.0	10.6	70.5	1.200.2	657.8	69.8	17.1	1.000243
9500.0	722.6	9.9	66.2	1.185.5	656.9	64.7	18.2	1.000236
10000.0	709.5	9.1	60.0	1.171.9	655.9	62.6	17.2	1.000232
10500.0	696.6	8.3	71.3	1.158.5	655.0	60.2	16.2	1.000229
11000.0	683.8	7.6	72.2	1.145.0	654.1			1.000225
11500.0	671.7	6.9	73.2	1.132.7	653.2			1.000220
12000.0	659.7	6.1	74.1	1.119.7	652.4			1.000216
12500.0	646.9	5.4	75.1	1.105.8	651.5			1.000212

STATION ALTITUDE 1007.10 FEET WSL  
 40 JUMP #4  
 ASCENSION NO. 102

MANDATORY LEVELS  
 171000Z  
 C M P

0650 MDT

GEOMETRIC COORDINATES  
 32.48034 LAT DEG  
 106.42107 LONG DEG

TABLE 9

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	ATP	DEGREES CENTIGRADE	DEWPOINT	PERCENT	DIRECTION	SPEED
		DEGREES				(TN)	KNOTS
950.0	5000.	16.5	17.4	12.0	82.	157.6	5.6
900.0	6480.	17.5	17.5	11.5	87.	125.1	11.9
850.0	8470.	19.3	17.4	7.4	76.	77.6	15.4
800.0	10157.	20.5	16.4	7.4	71.	61.0	16.5
450.0	23610.	5.4	1.5		75.		

STATION ALTITUDE 3989.0 FEET "SL"  
 19 JUNE 84  
 ASCENSION NO. 336 0825 MDT

SIGNIFICANT LEVEL DATA  
 1710220335  
 WHITE SANDS

GEODETIC COORDINATES  
 32.60043 LAT DEG  
 136.37033 LON DEG

TABLE 10

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES CFMTGRAD	DEWPOINT	
831.3 3989.0	19.6	15.7	93.0
879.3 459.3	19.0	14.1	73.0
850.0 5023.5	15.0	14.4	90.0
815.0 6135.7	13.6	13.1	97.0
702.0 10371.0	7.0	6.6	97.0
683.1 11013.2	5.8	5.4	97.0
540.2 12767.1	2.9	-0.5	73.0
612.5 13952.1	1.2	-1.2	34.0
599.5 14574.5	-13.8	-17.7	72.0



STATION ALTITUDE 3950.0 FEET MSL  
19 JUNE 82  
ASCENSION NO. 336 0825 MDT

UPPER AIR DATA  
171000Z336  
WHITE SANDS

GEODETTIC COORDINATES  
32.60043 LAT DEG  
106.37033 LON DEG

TABLE 11

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
3980.0	891.8	18.6	83.0	1044.2	558.0	45.0	1.9	1.000312
4000.0	891.5	13.7	81.6	1044.4	558.0	45.9	2.0	1.000311
4500.0	866.0	17.6	80.7	1030.3	666.7	72.7	3.0	1.000303
5000.0	850.7	15.1	89.6	1017.2	555.0	84.2	4.4	1.000301
5500.0	835.6	15.0	92.8	1002.9	663.7	90.2	5.9	1.000295
6000.0	820.8	14.0	95.8	988.7	552.5	93.7	7.4	1.000291
6500.0	805.0	13.1	97.0	974.1	551.4	95.7	8.8	1.000285
7000.0	791.5	12.3	97.0	959.4	660.4	103.9	9.3	1.000279
7500.0	777.2	11.5	97.0	944.9	559.4	110.2	10.0	1.000272
8000.0	763.2	10.7	97.0	930.5	658.5	110.9	9.7	1.000265
8500.0	749.4	10.0	97.0	916.5	557.5	108.7	9.0	1.000260
9000.0	735.9	9.2	97.0	902.7	555.5	104.4	8.5	1.000255
9500.0	722.6	8.4	97.0	889.1	655.5	93.5	8.9	1.000249
10000.0	709.5	7.6	97.0	875.7	654.5	84.0	9.6	1.000244
10500.0	696.7	7.0	97.0	861.9	553.7	75.5	10.1	1.000239
11000.0	683.9	5.8	97.0	846.5	553.6	70.1	10.7	1.000235
11500.0	671.3	5.7	91.8	834.5	652.1	55.1	11.2	1.000227
12000.0	659.0	4.6	86.3	823.0	550.6	55.2	10.7	1.000219
12500.0	646.8	3.5	80.7	811.5	549.1	65.4	10.3	1.000212
13000.0	634.8	2.5	79.3	799.4	548.0			1.000207
13500.0	623.0	1.8	81.7	786.5	647.1			1.000204
14000.0	611.4	-0.1	83.0	777.5	544.8			1.000199
14500.0	599.6	-13.7	72.1	804.2	627.8			1.000193

STATION ALTITUDE 3937.70 FEET WSL  
 19 JUNE 84 0825 MDT  
 ASCENSION NO. 530

MANDATORY LEVELS  
 171000335  
 WHITE SANDS

SECTETIC COORDINATES  
 32.63043 LAT DEG  
 136.37033 LON DEG

TABLE 12

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
950.0	5020.	16.0	14.4	90.	36.5	6.5	
830.0	5707.	12.8	12.3	97.	99.8	9.0	
750.0	8483.	10.0	9.5	97.	108.8	9.0	
700.0	10361.	7.0	6.6	97.	78.4	10.0	
650.0	12357.	3.8	1.0	92.	55.3	10.4	
600.0	14466.	-13.2	-17.1	72.			

STATION ALTITUDE 1007.0 FEET MSL  
 10 JUN 62 0825 MDT  
 ASCENSION NO. 104

SIGNIFICANT LEVEL DATA  
 171000Z104  
 104

GEODETTIC COORDINATES  
 32.48334 LAT DEG  
 106.42707 LON DEG

TABLE 13

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AT DEGREE CENTIGRADE	DEWPOINT	
981.6 1007.3	10.9	15.1	74.0
878.8 4000.5	17.6	15.4	87.0
850.0 5017.6	15.3	14.0	96.0
814.6 4134.5	13.6	13.1	97.0
717.7 9855.0	8.0	7.7	98.0
700.0 11345.4	6.2	5.5	95.0
672.9 11832.9	4.8	4.4	97.0
651.6 12204.5	4.1	3.4	95.0
637.5 13047.4	2.8	-2.3	89.0

UPPER AIR DATA  
1710040104  
C M R

STATION ALTITUDE 1007.70 FEET MSL  
10 JUNE 64  
ASCENSION NO. 104

GEODETIC COORDINATES  
32.48034 LAT DEG  
106.42107 LON DEG

TABLE 14

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE °F	TEMPERATURE °C	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION ° DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
1007.7	891.4	10.9	15.1	74.0	1040.0	669.4	20.0	4.0	1.000308
4000.0	891.7	10.8	15.1	74.4	1040.0	669.3	20.0	4.0	1.000308
4500.0	885.8	17.0	14.8	96.6	1031.8	666.1	28.8	5.2	1.000306
5000.0	880.5	16.3	14.0	96.0	1016.7	665.2	40.6	4.5	1.000299
5500.0	875.4	15.1	13.6	90.7	1007.4	663.8	55.5	4.1	1.000295
6000.0	870.6	13.9	13.2	95.7	989.8	662.4	72.7	4.0	1.000290
6500.0	865.9	13.1	12.6	97.1	974.7	661.3	88.5	4.3	1.000285
7000.0	861.4	12.3	11.9	97.7	950.7	660.4	107.0	4.8	1.000279
7500.0	857.1	11.5	11.1	97.4	944.7	659.5	105.2	4.6	1.000273
8000.0	853.1	10.8	10.4	97.5	930.4	658.5	104.5	9.1	1.000267
8500.0	849.3	10.0	9.7	97.6	914.7	657.6	93.7	0.1	1.000261
9000.0	845.8	9.3	9.0	97.9	907.7	656.7	80.0	10.4	1.000255
9500.0	842.6	8.5	8.2	97.9	898.5	655.7	71.5	12.1	1.000250
10000.0	839.5	7.5	7.1	97.1	874.0	654.4	69.5	13.6	1.000244
10500.0	836.5	6.1	5.4	95.2	864.8	652.6	67.0	15.0	1.000236
11000.0	833.7	5.6	5.0	95.0	850.4	652.0			1.000232
11500.0	831.1	5.1	4.6	96.5	836.7	651.4			1.000228
12000.0	828.8	4.5	4.0	96.3	827.6	650.7			1.000223
12500.0	826.6	3.7	1.9	97.0	817.2	649.6			1.000215
13000.0	824.6	2.9	-1.9	90.6	798.4	648.3			1.000204

STATION ALTITUDE 1007.70 FEET MSL  
 10 JUNE 64  
 ASCENSION NO. 104

MANDATORY LEVELS  
 121000Z0104  
 C M D

GEODETIC COORDINATES  
 32.48034 LAT DEG  
 106.42107 LON DEG

TABLE 15

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	NEUPOINT	PERCENT		DIRECTION DEGREES(TN)	SPEED KNOTS
950.0	5014.	16.7	14.0	86.		41.0	4.5
900.0	4704.	17.7	17.7	97.		94.4	4.4
850.0	4477.	18.1	9.7	98.		91.3	9.0
800.0	4055.	4.7	5.2	95.		68.7	14.6
450.0	12347.	4.0	7.0	93.			

STATION ALTITUDE 3989.0 FEET WSL  
19 JUNE 54 0910 MDT  
ASCENSION NO. 337

SIGNIFICANT LEVEL DATA  
1710J20337  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT DEG  
136.37033 LON DEG

TABLE 16

PRESSURE GEOMETRIC ALTITUDE	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
981.9 3999.0	19.2	15.1	82.0
977.2 4117.5	13.0	13.5	75.0
962.1 4629.2	17.4	15.0	86.0
950.0 5026.0	15.7	13.5	87.0
785.9 7239.5	11.9	11.4	77.0
700.3 10370.2	5.8	5.4	97.0
582.5 11055.9	6.8	5.4	77.0
556.4 12193.3	3.9	3.2	96.0
540.3 12770.5	2.9	3	83.0
513.0 13928.9	1.1	-0.5	99.0
599.1 14535.5	1.1	-2.1	79.0

STATION ALTITUDE 3900.0 FEET MSL  
19 JUNE 54  
ASCENSION #10. 337

UPPER AIR DATA  
1710020337  
WHITE SANDS

GEODETIC COORDINATES  
32.43063 LAT DEG  
136.37033 LONG DEG

TABLE 17

GLOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (T)	SPEED KNOTS	
3900.0	581.9	19.2	82.0	1042.5	553.7	7	0	1.000313
4000.0	581.6	19.1	81.6	1042.7	668.5	85.4	0	1.000312
4500.0	566.1	17.6	83.2	1030.3	555.7	85.4	1.6	1.000305
5000.0	850.8	15.8	86.9	1019.5	664.6	85.4	3.1	1.000293
5500.0	835.6	14.9	89.2	1001.8	553.4	85.4	4.7	1.000293
6000.0	820.7	14.0	91.5	989.0	552.4	85.4	5.2	1.000283
6500.0	806.1	13.1	93.3	974.6	661.4	85.4	7.6	1.000283
7000.0	791.7	12.3	96.0	950.0	550.3	97.0	9.3	1.000278
7500.0	777.5	11.4	97.0	945.7	659.3	105.5	9.2	1.000272
8000.0	763.4	10.6	97.0	931.6	558.3	108.3	9.2	1.000265
8500.0	749.6	9.8	97.0	917.3	557.3	108.1	9.6	1.000260
9000.0	735.0	9.0	97.0	903.6	656.3	105.4	8.2	1.000254
9500.0	722.6	8.2	97.0	889.8	555.3	94.3	8.8	1.000249
10000.0	709.5	7.4	97.0	876.6	654.3	84.8	9.8	1.000243
10500.0	696.7	6.8	97.0	862.6	553.5	79.6	10.7	1.000239
11000.0	683.9	6.8	97.0	846.5	553.5	75.9	11.6	1.000235
11500.0	671.3	5.6	96.5	834.9	652.1	74.2	12.1	1.000229
12000.0	659.0	4.3	96.2	823.5	550.4	78.2	11.3	1.000223
12500.0	646.8	3.3	95.0	811.7	549.1	82.8	10.5	1.000215
13000.0	634.8	2.5	94.2	799.2	548.1			1.000209
13500.0	623.0	1.8	86.8	786.5	547.1			1.000205
14000.0	611.4	1.1	87.8	771.9	646.3			1.000202
14500.0	599.9	1.1	79.5	759.5	545.2			1.000196

STATION ALTITUDE 3200.00 FEET WSL  
 19 JUNE 84  
 ASCENSION NO. 337  
 0910 MDT  
 MANDATORY LEVELS  
 1710020337  
 WHITE SANDS  
 TABLE 18  
 GEODETIC COORDINATES  
 32.60043 LAT DEG  
 106.37033 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	5042.	15.7	13.5	87.	85.4	3.2	
800.0	6708.	12.8	11.9	95.	91.3	7.9	
750.0	8483.	9.3	9.4	97.	104.1	8.6	
700.0	10360.	5.8	6.4	97.	87.7	10.5	
650.0	12355.	3.5	2.3	92.	81.5	10.7	
600.0	14480.	1.1	-2.0	80.			



STATION ALTITUDE 1007.70 FEET MSL  
19 JUNE 64 0910 MDT  
REF4510M NO. 105

SIGNIFICANT LEVEL DATA

GEOMETRIC COORDINATES  
32.48034 LAT DEG  
106.42107 LON DEG

TABLE 19

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
81.0 1907.3	15.8	16.2	85.0
80.0 4058.3	15.0	15.6	86.0
75.0 5034.3	16.4	14.6	89.0
76.0 4077.3	10.8	10.5	92.0
70.0 10286.4	7.0	6.7	98.0
467.4 11674.5	5.1	4.5	96.0
634.3 13055.6	2.2	.4	88.0

STATION ALTITUDE 3057.70 FEET WSL  
 10 JUN 64  
 0910 MDT

UPPER AIR DATA  
 171000Z  
 S M N

GEOMETRIC COORDINATES  
 32.48034 LAT NEG  
 104.62107 LONG NEG

TABLE 20

GEOMETRIC ALTITUDE WSL FEET	PRESSURE	TEMPERATURE °F	DEWPOINT °F	REL HUM. PERCENT	DENSITY GM/CM <sup>3</sup> WET	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
1007.7	881.0	19.8	16.2	85.0	1.044.0	649.3	330.0	4.0	1.000315
4000.0	801.5	18.8	16.2	85.0	1.044.0	648.3	330.0	4.0	1.000315
4500.0	845.7	17.3	15.2	87.4	1.033.7	666.4	338.5	4.0	1.000317
5000.0	851.0	16.5	14.6	88.0	1.014.4	665.4	1.7	7.3	1.000312
5500.0	855.0	15.5	14.0	88.4	1.001.4	664.3	63.7	1.8	1.000296
6000.0	871.0	14.6	13.3	89.0	0.984.0	663.2	102.3	7.2	1.000290
7000.0	804.7	13.7	12.4	87.4	0.972.4	662.1	114.8	5.1	1.000284
7500.0	781.0	12.7	11.9	84.0	0.958.4	660.9	117.4	6.4	1.000278
8000.0	773.0	11.8	11.2	84.4	0.944.7	650.8	118.0	7.7	1.000273
8500.0	743.0	10.9	10.5	87.0	0.931.1	658.6	116.4	8.6	1.000267
9000.0	750.1	10.1	9.8	88.0	0.917.0	657.4	102.8	8.8	1.000261
9500.0	736.5	9.2	8.9	88.0	0.903.7	656.4	97.3	9.4	1.000256
10000.0	723.1	8.4	8.1	89.0	890.5	655.6	82.2	10.8	1.000250
10500.0	710.0	7.6	7.3	88.0	874.1	654.4	72.3	12.6	1.000245
11000.0	697.1	6.8	6.5	87.8	867.7	653.6	73.0	14.5	1.000239
11500.0	685.3	6.1	5.7	87.0	849.3	652.7	75.5	14.1	1.000234
12000.0	671.7	5.4	4.8	86.3	834.1	651.7	77.6	14.7	1.000228
12500.0	659.7	4.6	3.5	84.1	823.0	650.5			1.000222
13000.0	647.1	3.3	2.0	81.1	817.0	649.1			1.000216
13500.0	635.1	2.3	.5	88.2	800.3	647.8			1.000210

STATION ALTITUDE 1007.10 FEET MSL  
12 JUN 64 0910 MDT  
STATION NO. 102

MANDATORY LEVELS  
111000J105  
C M P

GEOMETRIC COORDINATES  
32.48034 LAT DEG  
106.42107 LONG DEG

TABLE 21

PRESSURE GEOMETRIC MILLIBARS	FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AT DEGREES	NEURNT CENTIGRADE		DIRECTION DEGREES(TN)	SPED KNOTS
850.0	5731.	14.4	14.4	89.	4.3	2.2
800.0	6720.	13.7	13.3	94.	114.3	5.8
750.0	8608.	10.0	9.7	98.	102.8	8.8
700.0	10374.	7.0	6.7	98.	74.5	14.0
650.0	12170.	3.4	3.4	92.		

STATION ALTITUDE 3300.00 FEET MSL  
17 JUNE 54  
ASCENSION NO. 330

0958 MDT

# SIGNIFICANT LEVEL DATA

171000Z54  
WHITE SANDS

GEODETIC COORDINATES  
32.43063 LAT NEG  
106.37033 LON NEG

TABLE 22

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR	DEWPOINT	
		DEGREES	CENTIGRADE	
331.3	3920.0	23.1	15.1	75.0
372.9	4250.1	17.7	14.0	79.0
350.0	5024.9	17.3	15.5	89.0
311.3	6309.2	12.9	12.3	95.0
294.5	6975.3	13.5	13.0	97.0
286.1	7271.3	12.1	11.5	97.0
255.9	9322.3	9.5	3.7	95.0
236.7	11123.3	3.1	7.5	96.0
200.0	13393.6	9.0	3.4	95.0
496.5	10598.2	7.0	5.6	97.0
459.7	11935.2	6.9	6.3	95.0
550.3	12372.1	6.9	6.2	95.0
547.5	12483.7	3.2	2.3	94.0
510.9	14039.2	2.2	.1	96.0
507.3	15086.5	.7	-2.7	78.0
574.0	15525.9	-.9	-3.4	83.0
558.9	16392.4	-.7	-8.6	55.0
537.5	17412.5	-2.5	-9.6	59.0
500.0	19298.9	-5.0	-16.7	50.0
452.0	21857.5	-12.7	-15.7	72.0
433.7	22507.5	-12.8	-25.3	34.0
430.7	23058.5	-13.9	-27.7	30.0
423.1	23512.9	-14.5	-36.3	15.0
413.1	24173.0	-15.5	-35.5	15.0
400.0	24935.5	-17.4	-34.4	21.0
399.6	26035.0	-22.5	-37.6	26.0
372.1	29042.7	-25.3	-43.4	15.0
328.6	29669.5	-27.2	-45.8	15.0
300.0	31786.2	-32.0	-49.8	15.0
265.3	36572.2	-37.4	-54.3	15.0
255.5	35453.4	-39.4	-56.0	15.0
250.0	35955.3	-40.5		
200.0	47843.2	-51.5		
161.9	42648.0	-55.2		
161.7	45303.0	-59.6		
158.3	45575.2	-50.3		
157.0	46340.2	-52.3		
145.0	47300.2	-62.6		
135.3	4857.5	-54.2		
119.4	51523.0	-59.1		

SEDIMENT COORDINATES  
 32.60043 LAT DEG  
 135.37033 LON DEG

SIGNIFICANT LEVEL DATA  
 17102233P  
 WHITE SANDS

TABLE 22 Cond't

STATION ALTITUDE 3929.7 FEET MSL  
 19 JUNE 54  
 ASCENSION NO. 338

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR	DEWPOINT	
		DEGREES CENTIGRADE	
110.3	52595.9	-73.4	
100.3	54906.5	-70.4	
86.2	58277.2	-70.4	
70.3	51951.2	-54.5	
53.4	67457.5	-50.5	
50.3	68635.4	-55.1	
41.3	73020.5	-54.5	
36.2	75550.1	-55.5	

STATION ALTITUDE 2927.0 FEET MSL  
 16 JUNE 84  
 ASCENSION NO. 338

UPPER AIR DATA  
 1710020338  
 WHITE SANDS

SENETIC COORDINATES  
 32.43045 LAT NEG  
 106.37033 LON NEG

0958 MDT

TABLE 23

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TW)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3942.0	541.8	21.1	78.2	1030.3	559.3	0	0	1.000313
4000.0	541.5	21.0	78.0	1030.2	559.7	42.2	0	1.000312
4500.0	540.0	17.6	92.0	1030.2	555.7	42.2	1.5	1.000310
5000.0	850.8	17.5	98.7	1012.6	556.6	42.2	3.2	1.000304
5500.0	925.7	15.7	91.5	1000.5	556.5	42.2	6.8	1.000297
6000.0	920.9	14.0	94.3	989.1	552.4	54.4	5.9	1.000290
6500.0	506.2	13.1	96.3	974.5	551.4	36.2	8.1	1.000284
7000.0	791.8	13.1	97.0	956.3	551.5	96.6	3.1	1.000291
7500.0	777.6	11.8	96.8	944.4	559.8	106.6	8.1	1.000273
8000.0	763.6	11.2	96.3	920.5	559.0	97.8	5.9	1.000267
8500.0	742.8	10.5	95.8	914.2	558.3	39.5	6.4	1.000262
9000.0	715.3	10.0	95.6	900.5	557.5	95.6	7.2	1.000255
9500.0	723.0	9.3	95.1	886.5	555.5	37.8	7.6	1.000251
10000.0	709.9	8.3	95.3	873.7	555.5	92.6	7.8	1.000245
10500.0	697.0	7.9	96.5	859.1	555.0	94.6	8.1	1.000241
11000.0	594.2	6.4	96.7	848.3	553.0	94.6	8.5	1.000234
11500.0	671.7	5.6	96.4	835.2	552.1	95.0	3.6	1.000229
12000.0	659.4	4.9	96.0	822.2	551.2	97.6	10.0	1.000224
12500.0	547.2	3.2	93.9	812.4	549.0	107.7	3.9	1.000217
13000.0	575.2	2.9	91.3	798.4	548.6	119.0	9.5	1.000212
13500.0	522.4	2.5	88.8	784.5	548.1	134.7	8.6	1.000207
14000.0	511.9	2.2	86.2	771.0	547.7	144.4	5.5	1.000203
14500.0	600.4	1.5	92.5	759.7	545.8	157.0	3.4	1.000197
15000.0	599.6	0	92.5	746.7	545.0	138.6	1.6	1.000192
15500.0	573.1	-0.6	82.1	736.5	544.2	245.7	1.5	1.000189
16000.0	567.2	-0.9	58.8	723.5	543.8	240.2	3.4	1.000181
16500.0	555.5	-0.9	55.6	710.5	543.5	240.0	5.2	1.000175
17000.0	546.0	-1.2	57.6	699.4	542.5	242.6	5.5	1.000172
17500.0	535.7	-2.7	58.5	688.5	541.4	245.1	8.0	1.000164
18000.0	525.5	-3.5	56.2	677.3	540.2	249.0	9.0	1.000165
18500.0	515.4	-4.5	53.8	667.3	539.1	249.8	10.0	1.000161
19000.0	505.6	-5.5	51.6	656.9	537.9	248.8	10.7	1.000157
19500.0	495.9	-5.5	51.5	647.0	535.6	241.5	11.1	1.000154
20000.0	485.2	-7.9	56.1	637.5	535.0	231.5	11.5	1.000152
20500.0	475.8	-9.2	40.4	628.2	533.4	219.2	11.9	1.000153
21000.0	467.5	-10.5	44.7	619.1	531.9	209.2	12.7	1.000149
21500.0	458.4	-11.8	48.9	610.1	530.3	202.2	13.2	1.000145
22000.0	449.4	-12.7	44.3	600.4	529.1	199.7	13.9	1.000142
22500.0	440.5	-12.8	29.5	589.0	528.2	203.2	14.7	1.000135
23000.0	431.9	-13.7	20.5	579.5	527.6	206.0	15.9	1.000133

STATION ALTITUDE 3200.00 FEET MSL  
15 JUNE 64 0958 MDT  
ASCENSION NO. 332

UPPER AIR DATA  
1710020338  
WHITE SANDS

GEODETIC COORDINATES  
32.43043 LAT DEG  
136.37033 LON DEG

TABLE 23 Cont'd

GLOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (T)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	423.3	-14.9	16.4	570.2	525.5	214.1	17.8	1.000129
24000.0	414.9	-15.3	16.0	560.5	525.6	217.4	17.7	1.000127
24500.0	406.6	-15.4	18.5	551.5	524.3	218.2	21.5	1.000125
25000.0	398.5	-17.0	21.1	542.1	522.8	215.0	23.0	1.000123
25500.0	390.4	-19.0	23.3	534.2	521.2	213.5	24.6	1.000121
26000.0	382.5	-20.5	22.7	526.3	519.5	205.5	25.6	1.000119
26500.0	374.7	-21.5	23.5	518.8	517.9	203.2	27.4	1.000117
27000.0	367.1	-22.8	23.6	510.5	515.5	203.4	32.6	1.000115
27500.0	359.5	-23.6	22.2	501.8	515.4	205.5	35.6	1.000113
28000.0	352.1	-24.5	20.9	492.2	514.6	208.2	40.0	1.000111
28500.0	344.5	-25.4	19.5	484.7	513.3	213.9	42.5	1.000109
29000.0	337.7	-26.2	18.1	476.4	512.2	212.5	43.8	1.000107
29500.0	330.7	-27.0	15.7	467.2	511.3	214.3	42.6	1.000105
30000.0	323.7	-28.0	15.0	458.0	510.0	215.2	41.3	1.000103
30500.0	316.9	-29.1	15.0	452.8	508.6	218.4	39.8	1.000101
31000.0	310.2	-30.2	15.0	444.3	507.2	220.1	40.1	1.000100
31500.0	303.7	-31.4	15.0	437.5	505.8	221.1	41.6	1.000098
32000.0	297.3	-32.4	15.0	430.1	504.5	222.0	43.5	1.000095
32500.0	290.9	-33.4	15.0	422.5	503.3	222.8	45.7	1.000094
33000.0	284.5	-34.4	15.0	415.2	502.0	221.7	47.9	1.000091
33500.0	278.5	-35.3	15.0	407.2	500.8	220.3	49.9	1.000089
34000.0	272.5	-36.3	15.0	400.3	500.6	219.7	50.2	1.000087
34500.0	266.6	-37.3	15.0	392.7	500.4	219.4	52.4	1.000083
35000.0	260.8	-38.4	15.0	385.0	500.3	220.5	56.2	1.000085
35500.0	255.1	-39.5	13.7**	377.8	500.4	221.4	55.8	1.000083
36000.0	249.5	-40.6		370.1	500.1	220.8	54.5	1.000081
36500.0	243.9	-41.7		362.1	500.2	220.6	55.3	1.000082
37000.0	238.4	-42.8		354.5	500.2	222.0	52.7	1.000080
37500.0	233.0	-44.0		354.2	500.8	223.4	52.3	1.000079
38000.0	227.8	-45.1		347.9	500.3	225.7	53.6	1.000077
38500.0	222.6	-46.2		341.7	500.2	228.0	52.9	1.000075
39000.0	217.6	-47.3		335.7	500.4	228.6	52.4	1.000073
39500.0	212.7	-48.5		329.3	500.2	229.1	51.8	1.000073
40000.0	207.9	-49.6		324.0	500.5	229.8	51.6	1.000072
40500.0	203.2	-50.7		319.2	501.0	230.4	51.5	1.000071
41000.0	198.6	-51.9		314.5	500.3	231.3	51.3	1.000070
41500.0	194.0	-53.0		306.2	500.2	232.3	51.2	1.000068
42000.0	189.4	-54.2		301.3	500.5	232.9	51.3	1.000067
42500.0	185.0	-55.3		295.2	500.2	233.3	51.7	1.000065
43000.0	180.6	-56.4		290.3	500.5	234.1	50.7	1.000063

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

UPPER AIR DATA  
171000Z  
WHITE SANDS

STATION ALTITUDE 39 900 FEET MSL  
19 JUNE 84 0958 MDT  
ASCENSION NO. 335

GEODETIC COORDINATES  
32.63063 LAT DEG  
106.37335 LON DEG

TABLE 23 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
43500.0	175.4	-57.1		284.3	572.7	235.4	68.3	1.000045
44000.0	172.2	-57.8		278.5	571.7	235.4	46.9	1.000042
44500.0	168.1	-58.5		272.7	570.8	235.4	65.5	1.000041
45000.0	164.1	-59.2		267.1	569.9	237.9	65.7	1.000040
45500.0	160.2	-60.0		261.3	568.5	239.1	44.6	1.000038
46000.0	156.3	-61.2		255.9	567.1	240.9	41.8	1.000037
46500.0	152.5	-61.9		251.5	565.3	243.8	37.1	1.000035
47000.0	148.8	-62.4		246.7	565.0	244.8	32.9	1.000035
47500.0	145.2	-62.7		240.4	565.1	243.2	29.2	1.000036
48000.0	141.7	-63.3		235.1	564.4	239.8	25.4	1.000032
48500.0	138.2	-63.8		230.0	563.7	231.7	21.5	1.000031
49000.0	134.8	-64.5		225.1	562.8	220.8	18.3	1.000030
49500.0	131.5	-65.4		220.4	561.5	211.2	17.6	1.000049
50000.0	128.2	-66.2		215.9	560.4	201.7	17.0	1.000048
50500.0	125.1	-67.1		211.5	559.2	206.9	15.2	1.000047
51000.0	122.0	-68.0		207.2	557.9	208.8	13.6	1.000045
51500.0	119.0	-68.9		202.9	555.7	210.4	13.3	1.000045
52000.0	116.0	-69.5		198.4	555.3	212.1	13.1	1.000046
52500.0	113.1	-70.0		193.9	555.3	207.8	13.3	1.000043
53000.0	110.2	-70.4		189.4	554.7	201.5	13.6	1.000042
53500.0	107.4	-70.4		184.5	554.7	199.3	14.4	1.000041
54000.0	104.7	-70.4		180.0	554.7	200.2	15.3	1.000040
54500.0	102.1	-70.4		175.6	554.7	200.7	15.8	1.000039
55000.0	99.5	-70.4		171.0	554.7	201.8	15.9	1.000038
55500.0	97.0	-70.4		166.7	554.7	199.2	14.7	1.000037
56000.0	94.5	-70.4		162.5	554.7	193.1	12.3	1.000036
56500.0	92.2	-70.4		158.4	554.7	185.4	10.4	1.000035
57000.0	89.9	-70.4		154.6	554.7	182.3	10.0	1.000034
57500.0	87.6	-70.4		150.5	554.7	178.9	9.6	1.000033
58000.0	85.4	-70.4		146.7	554.7	159.1	7.9	1.000032
58500.0	83.3	-70.0		142.8	555.2	153.4	7.9	1.000031
59000.0	81.2	-69.6		138.7	555.3	134.5	8.7	1.000030
59500.0	79.2	-68.4		134.7	557.4	130.5	10.3	1.000029
60000.0	77.2	-67.6		130.7	558.5	38.8	12.3	1.000028
60500.0	75.3	-66.8		127.1	559.6	79.8	15.5	1.000027
61000.0	73.4	-65.0		123.5	560.7	79.0	15.2	1.000026
61500.0	71.6	-65.2		120.0	561.8	78.7	15.5	1.000025
62000.0	69.8	-64.2		116.5	562.8	93.0	15.5	1.000025
62500.0	68.1	-64.1		112.5	563.5	91.8	14.1	1.000025
63000.0	65.5	-63.7		110.5	563.8			



STATION ALTITUDE 3919.00 FEET "SL  
14 JUNE 82  
ASCENSION NO. 332 0958 MDT

UPPER AIR DATA  
171700Z  
WMTF SANDS

GEODETIC COORDINATES  
32.43043 LAT DEG  
135.87733 LON DEG

TABLE 23 Cont'd

GEOMETRIC ALTITUDE "SL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
63500.0	54.9	-43.4		107.7	556.2	98.6	18.6	1.000024
64000.0	53.3	-43.0		106.9	556.7	95.7	14.0	1.000025
64500.0	51.8	-42.7		105.2	555.2	95.2	14.6	1.000023
65000.0	50.3	-42.3		99.5	555.7	93.1	15.6	1.000022
65500.0	58.5	-41.9		97.0	556.2	91.1	15.3	1.000022
66000.0	57.4	-41.5		94.5	555.7	91.1	15.7	1.000021
66500.0	55.0	-41.2		92.0	557.2	93.7	15.4	1.000020
67000.0	54.6	-40.8		89.7	557.7	95.4	16.2	1.000020
67500.0	53.3	-40.4		87.3	558.2	100.2	17.9	1.000019
68000.0	52.0	-39.8		84.5	570.4	103.8	19.5	1.000019
68500.0	50.8	-37.2		82.0	572.5	107.6	20.3	1.000018
69000.0	49.5	-36.0		79.5	574.0	115.0	20.6	1.000015
69500.0	45.4	-35.8		77.7	574.3	118.2	21.1	1.000017
70000.0	47.3	-35.7		75.3	574.5	117.9	17.8	1.000017
70500.0	45.2	-35.5		73.9	574.3	117.5	14.4	1.000015
71000.0	45.1	-35.3		72.1	575.0	110.2	11.8	1.000015
71500.0	44.1	-35.1		70.6	575.3	35.2	12.4	1.000015
72000.0	43.0	-34.9		59.7	575.5	57.5	15.9	1.000015
72500.0	42.0	-34.7		67.0	575.3	52.2	15.7	1.000015
73000.0	41.0	-34.5		55.6	575.1	53.3	17.5	1.000015
73500.0	40.1	-34.7		53.9	575.8	54.6	18.3	1.000014
74000.0	39.1	-34.9		52.5	575.5			1.000014
74500.0	38.2	-35.1		51.1	575.2			1.000014
75000.0	37.2	-35.3		50.7	575.0			1.000013
75500.0	35.5	-35.5		58.6	574.7			1.000013

STATION ALTITUDE 2945.00 FEET MSL  
19 JUNE 84  
ASCENSION NO. 356 0958 MDT

MANDATORY LEVELS  
171020130  
WHITE SANDS

GEOSETIC COORDINATES  
32.43043 LAT DEG  
105.87033 LON DEG

TABLE 24

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT		DIRECTION DEGREES(TN)	SPEED KNOTS
857.0	5041.	17.3	15.5	89.	67.2	3.3
807.0	6710.	13.3	12.8	97.	51.0	8.1
757.0	8459.	10.5	10.0	95.	39.5	5.6
707.0	10177.	9.0	8.4	95.	94.7	3.0
657.0	12171.	4.7	4.0	95.	105.2	9.9
607.0	14500.	1.5	-1.2	82.	157.5	3.3
557.0	16780.	-1.6	-8.0	57.	242.3	5.0
507.0	19262.	-5.0	-14.7	50.	244.1	11.1
457.0	21935.	-12.7	-17.7	55.	199.4	13.3
407.0	24867.	-17.4	-34.4	21.	217.2	22.8
357.0	28094.	-24.7	-40.0	20.	209.4	40.7
307.0	31724.	-32.0	-49.8	15.	221.7	62.5
257.0	35977.	-40.5			220.9	56.7
207.0	40748.	-51.5			231.0	51.4
175.0	43552.	-57.3			235.8	47.5
157.0	46712.	-62.3			245.3	44.3
125.0	50371.	-67.2			204.8	15.2
100.0	54735.	-70.4			201.1	15.9
97.0	55087.	-69.8			126.4	3.2
77.0	61737.	-64.5			78.8	15.1
57.0	64845.	-62.2			92.9	15.5
37.0	68575.	-55.1			110.9	20.5
47.0	73243.	-54.7			56.4	18.3

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3297.73 FEET WSL  
 19 JUNE 54  
 ASCENSION NC. 126

0958 MDT

SIGNIFICANT LEVEL DATA  
 171036ZJOS  
 S W R

GEODETIC COORDINATES  
 32.48034 LAT DEG  
 106.42307 LONG DEG

TABLE 25

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
931.9	3927.3	21.4	15.5	59.0
975.4	4207.9	20.0	13.9	53.0
350.0	5019.6	17.0	13.3	79.0
413.5	5254.0	14.4	12.3	97.0
731.1	9211.5	8.8	8.4	97.0
710.3	9998.3	8.6	3.5	71.0
700.0	10396.1	8.5	4.0	73.0
575.9	11347.5	5.7	5.5	92.0
538.7	12872.1	3.9	3.3	95.0

STATION ALTITUDE 3997.30 FEET "SL  
19 JUNE 84  
ASCENSION NO. 106

0958 MDT

UPPER AIR DATA  
171006J106  
S M R

GEODETIC COORDINATES  
32.43034 LAT DEG  
106.42307 LON DEG

TABLE 26

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND M/SEC	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3997.3	881.9	21.4	59.0	1035.1	571.2	0	0	1.0003378
4000.0	881.8	21.4	59.0	1035.1	571.1	92.0	0	1.0003378
4500.0	856.4	18.9	71.9	1026.2	558.1	92.0	1.1	1.0003249
5000.0	831.2	17.1	78.5	1014.5	556.0	92.0	2.1	1.0002905
5500.0	806.1	16.0	82.0	1000.5	554.7	92.0	3.2	1.0002911
6000.0	781.3	15.0	85.3	986.4	553.5	92.0	4.2	1.0002905
6500.0	756.7	14.0	87.8	972.4	552.3	92.0	5.3	1.0002881
7000.0	732.2	13.0	89.5	958.2	551.1	95.8	5.0	1.0002795
7500.0	707.9	12.1	91.2	944.3	550.0	100.5	5.7	1.0002700
8000.0	683.9	11.1	92.9	930.5	548.8	97.8	7.6	1.0002645
8500.0	659.2	10.2	94.5	917.0	547.7	97.1	9.0	1.0002610
9000.0	636.7	9.2	96.3	903.7	546.5	79.5	13.6	1.0002555
9500.0	613.4	8.7	97.5	889.4	545.8	75.0	13.1	1.0002445
10000.0	590.3	8.0	98.1	874.5	545.3	74.7	13.4	1.0002413
10500.0	567.3	7.4	98.1	859.0	545.2	73.7	14.7	1.0002311
11000.0	544.6	6.8	98.1	846.0	544.1			1.0002211
11500.0	522.1	6.2	98.1	833.3	543.0			1.0002111
12000.0	500.7	5.6	98.1	820.8	541.9			1.0002011
12500.0	479.6	5.0	98.1	808.5	540.8			1.0001911

STATION ALTITUDE 3997.0 FEET WSL  
 19 JUNE 84  
 ASCENSION NO. 106

WINDFORY LEVELS  
 1710060105  
 C M R

GEODETIC COORDINATES  
 32.68036 LAT DEG  
 136.42307 LON DEG

TABLE 27

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT	PERCENT		DIRECTION DEGREES(TV)	SPEED KNOTS
850.0	5025.	17.0	17.3	79.		92.0	2.2
700.0	5727.	13.5	11.7	89.		94.5	5.5
750.0	8506.	10.1	9.3	95.		86.9	9.0
700.0	10365.	8.6	4.0	73.		73.9	14.5
650.0	12329.	4.3	4.0	95.			